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How well do venture capital databases reflect actual investments?

by

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Abstract

Researchers increasingly have used the two primary venture capital databases – VentureOne and Venture Economics – to study venture capital (VC) financings. These data are largely self-reported. In this paper, we compare the actual contracts in 143 VC financings to their characterizations in the databases. The databases exclude roughly 15% of the financing rounds. The Venture Economics database oversamples larger rounds and California companies while the financing rounds included in the VentureOne database exhibit no significant bias. The databases provide unbiased, but noisy measures of financing amounts and their valuations. The databases also are less successful in measuring milestone rounds. The VentureOne database oversamples valuations for highly valued firms even controlling for firm characteristics. We discuss the implications of these findings for researchers and practitioners.

G24: Investment banking; Venture Capital; Brokerage

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I. Introduction

An increasing number of researchers use the two primary venture capital databases – VentureSource (from VentureOne) and VentureXpert (from Venture Economics) – to study venture capital (VC) financings.¹ Practitioners use these databases to understand market conditions. Summary investment and valuation statistics from these databases also are widely cited in the popular press and by policymakers. These data are largely self-reported by the venture capitalists and / or by the companies in which they invest. In this paper, we compare the actual contracts in 143 VC financings to their characterizations in the two databases on four primary dimensions: whether the financings appear in the database, the financing amounts, whether the valuations of the financing appear in the database, and the valuations themselves.

We find that the databases exclude roughly 15% of the financing rounds and 20% of the financing committed. Aggregate statistics based on these databases, therefore, understate the amount of VC financing committed. At the same time, VentureOne tends to overstate the amount of financing actually disbursed. Both databases oversample California firms and larger rounds; the Venture Economics database, significantly so. This suggests that the widely reported preponderance of venture capital investment in California is somewhat overstated.

We find that the databases provide relatively unbiased measures of the amount of financing, although the measures are noisy. The average absolute error is on the order of 10%. The databases are less successful in dealing with milestone or staged financing rounds.

The databases are missing valuations for a substantial fraction of the financing rounds they report– almost 70% for Venture Economics and almost 30% for VentureOne. Financing rounds with valuations are more likely to be larger rounds, in California, and to have

¹ For example, see Cochrane (2001), Gompers and Lerner (2000), Sorensen and Stuart (2001).

subsequently gone public. The valuations that the databases provide are relatively unbiased, but again, are fairly noisy with non-trivial average absolute errors. The sampling and milestone biases can materially affect researchers' estimates of returns and valuation patterns over time. Finally, the VentureOne financing rounds that report post-money values have significantly higher valuations than the non-reporting firms.

Overall, we find that the VentureOne data are generally more reliable, more complete, and less biased than the Venture Economics data.

The paper proceeds as follows. Section 2 describes our sample. Section 3 presents our results. Section 4 discusses the implications of these findings for researchers and practitioners.

2. *Sample*

2.1 *Actual Contracts*

We use a subset of the sample used by Kaplan and Stromberg (2001). Kaplan and Stromberg (2001) study 213 VC investments in 119 portfolio companies by fourteen VC partnerships they obtained by asking each VC to provide detailed information on as many of their portfolio company investments as they were willing to provide. For each of these companies, the VCs provided the documents that include all the financing terms, the firm's equity ownership – investors, founders, management, etc. – and any contingencies to future financing. The VCs also provided (if available) the portfolio company's business plan at the time of the financing, the VC's internal analysis of the investment, and the subsequent portfolio company financial performance.

We eliminate those financing rounds for which we do not have the complete closing documents or complete information on the financing amounts and financing terms at closing.

We do this because we want to be absolutely sure that we have the correct data to compare to the databases. This leaves us with a sample of 143 VC investments in 98 portfolio companies by thirteen VC partnerships.

The first column of table I describes various aspects of the actual sample. Twenty-three of the 143 rounds are milestone rounds. In these rounds, the venture capitalists commit to a certain amount of funding. Some of the funding is provided at the closing of the round while additional funding is contingent on the company attaining milestones described in the contract.² Milestone rounds, therefore, are problematic because the amount invested at closing and the total amount actually invested at those terms can differ.

An additional 19 rounds are those in which we were able to determine that the companies raised additional funding at the same terms (unrelated to milestones) more than thirty days after the initial closing. These closings are typically to sell shares that were authorized but unsold at the initial closing, often to new investors.

The table also shows that the 143 rounds represent \$1,142 million in financing commitments by the VC firms. Of this, only \$859 million was actually disbursed when the rounds closed.

The remainder of the column presents the time distribution, geographic distribution, and industry distribution of the sample. The bulk of the sample financings occur between 1996 and 1998. The geographical distribution of the portfolio companies in our sample is fairly uniform across California (28%), the Midwest (20%), the Northeast (24%), and elsewhere. Relative to the VC industry as a whole, this represents a slight undersampling of California firms and an

² We consider a financing round to be a set of contracts agreed to on a particular date that determines the disbursement of funds from a VC to a company. A new financing round differs from the contingent release of funds in that the price and terms of the financing are not set in advance.

oversampling of Midwest firms. According to Venture Economics, 41% of overall VC investments were in California firms and only 14% in Midwest firms.³ Not surprisingly, the greatest percentage of companies, 41%, is in the information technology and software industries. An additional 10% are in telecommunications. Both of these industries include Internet related investments. This concentration is roughly consistent with the industry distributions reported in Venture Economics.

In addition to studying financing amounts, we also are interested in studying valuations and their effect on return calculations. VCs typically measure valuations using the terms post- and pre-money values. The post-money value equals the post-financing equity market capitalization of the company calculated at the share price of the financing round and assuming that all ownership stakes – convertible preferred stock and other classes of stock – are converted into common stock. This measure almost certainly overstates the true value of the company because it values the outstanding common stock at the same value as the classes of stock issued to the VCs despite the fact that the VCs receive superior control rights and liquidation rights. The pre-money value equals the equity market value owned by investors before the financing round, calculated at the price per share of the financing round.

The second column of table I reports that we can calculate pre- and post-money values with a high degree of certainty for 119 of the 143 financing rounds. In addition to knowing the terms of the financing, we also must know the complete pre-financing ownership structure of the company. In most of the cases for which we cannot calculate post-money values, we are not completely sure of the details of the outstanding options.

³ These figures are for the period between 1996 and 1999.

2.2 *Venture Economics and VentureOne data*

For each of the 143 financing rounds, we searched the Venture Economics and VentureOne databases for the matching financing rounds. We consider the financing round a match if the round includes the VC firm in our sample, has a financing amount and occurs within four months of the date of our financing. Venture Economics claims to collect its data on VC investments primarily from VCs. In fact, it is the official database partner of the National Venture Capital Association. VentureOne claims to collect its data primarily from the companies themselves although it also surveys VCs.

Columns 3 and 4 of table I show that we are able to locate 124 financing rounds in Venture Economics and 116 in VentureOne. If we restrict the sample to the 131 actual financing rounds after 1993, Venture Economics has 113 financing rounds and VentureOne has 112 financing rounds. Venture Economics, therefore, appears to have slightly better coverage of financing rounds with the difference concentrated entirely in rounds before 1994. For the later period, both databases capture roughly 85% of the financing rounds by number.

Venture Economics and VentureOne also understate the amount of capital committed with, respectively, \$801 million and \$889 million or roughly 70% and 80% of the \$1142 million financing committed. These results suggest that aggregate statistics calculated from Venture Economics and VentureOne understate venture capital commitments in the U.S.⁴

The databases are closer to the amount of capital actually disbursed at the initial closing (\$859 million) with VentureOne above the actual amount and Venture Economics below. VentureOne's overestimates are greater in the post-1993 period (\$854 million versus \$773 million

⁴ In our data, one company completed a financing round that raised most of the round at closing and some additional money two months later for a total of \$A million. Venture Economics reports a round in excess of 30 times \$A million in the closing month and a round of \$A million two months later. The post-money value for the closing month is \$A million. We eliminated the round of 30 times \$A million in the closing month as clearly in error.

actually disbursed). The reason for the improvement is that the databases sometimes report the total amount committed in the round rather than the amount disbursed. This offsets the omission of other financing rounds. As we discuss later the, the databases sometimes report subsequent milestone achievements as additional financing rounds. This increases the overestimate of actual disbursements for VentureOne.

Both databases also report post-money values. Columns 5 and 6 indicate that there is a large difference in coverage. Venture Economics reports post-money values for only 39 financing rounds while VentureOne reports values for 82 financing rounds. The columns also suggest that both databases have a bias towards reporting post-money value for California companies.

Finally, the second panel of table I reports how well the financing rounds match the actual closing months. VentureOne is more accurate than Venture Economics with 109 of 116 rounds within one month of the closing date compared to 107 of 124 for Venture Economics.

Overall, then, the databases capture roughly 85% of the financings and commitments, but capture a larger fraction of the capital actually disbursed.

3. *Results*

3.1 Determinants of the inclusion of financing rounds

In this section, we consider the determinants of inclusion (or exclusion) of financing rounds in order to understand what biases if any are in the selection of VC investments in the different databases. Such biases potentially can affect conclusions concerning the total amount of VC investment, the distribution of that investment, and inferences concerning the returns of such investment.

We estimate a logit regression model for each database. The dependent variable equals 1 if the database reports a financing amount for the round and 0 if it does not. The regressions include the following independent variables. We use calendar year dummies (1995, 1996, 1997, and 1998 or 1999⁵) to pick up any improvements or deterioration in reporting over time – the intercept reflects financings 1994 and earlier. We include a dummy variable equal to 1 if the company financed is located in California to pick up any possible bias toward California deals. We include two dummy variables for the company’s industry – IT/Software/Telecom and Biotech/Medical/Healthcare with the intercept reflecting Retail and other. These dummy variables are motivated by Gompers and Lerner (2000) who find that VentureOne is more likely to have complete information for companies located in California and/or operating in high-technology industries. We include a dummy variable equal to 1 if the company has subsequently issued equity to the public. One might expect more information to be available for such companies. The final independent variable we use is the natural logarithm of the actual financing committed to the round.⁶

The results are presented in panel B of Table II.⁷ Venture Economics oversamples companies located in California and larger financing rounds. The estimated probability that Venture Economics reports a financing round is 98.4% if the company is located in California and 89.5% if it is not. This, in turn, implies that Venture Economics overstates the number of VC investments in California companies by 6% and understates non-California investments by

⁵ We combine 1998 and 1999 because we have only one 1999 financing round.

⁶ This includes the total financing committed amount for milestone rounds, but excludes amounts raised at closings more than 30 days after the initial closing.

⁷ The table also includes the odds ratio point estimate. For a dummy variable, the odds ratio is the multiplicative change in the odds of success – the probability of success divided by the probability of no success – when the dummy variable changes from 0 to 1, holding all other variables constant.

4%. There also is a slight bias towards including IT and Life Science related investments. Contrary to what some would expect, there is no bias towards including companies that subsequently go public. Finally, the time dummies suggest that the Venture Economics database is somewhat less successful in including financings after 1994.

VentureOne, in contrast to Venture Economics, does not exhibit any significant sampling biases. Although the coefficients on round amount and California are positive, they are not significant.

Overall, these results suggest that the financing rounds included in VentureOne are representative of all financing rounds and are not biased in any meaningful way. Venture Economics, on the other hand, is biased towards larger, California rounds. Neither database is biased towards including companies that subsequently go public suggesting that such a performance bias is not in the databases.

3.2 Financing Round Amounts

Table III presents comparisons of actual financing round amounts to those reported by Venture Economics and VentureOne. For each round in which the amount of financing is not dependent on the achievement of any milestones (non-milestone rounds), we compute the ratios of the amounts reported by Venture Economics and VentureOne to the actual amount. For milestone rounds in which the investors invest in the company at the initial closing and commit additional funds contingent on the future achievement of milestones, we compute the ratios of the amounts reported by Venture Economics and VentureOne to the total committed amount assuming the achievement of all milestones, to the initial amount disbursed at closing, and to the actual amount raised based on the actual milestones achieved.

Table III reports our findings. Panel A includes amounts raised in subsequent closings as part of the round amount while panel B does not. In general, the errors in panel A are somewhat smaller than in panel B. This suggests that the databases include amounts raised in subsequent closings in the original round amount. Accordingly, we focus our discussion on the results in panel A.

We first consider non-milestone rounds. Panel A of table III shows that for the median non-milestone round, the amounts reported by both VentureOne and Venture Economics equal the actual amounts raised. However, the median masks a fair amount of variance. The average absolute errors, for example, are non-trivial at 15% for Venture Economics and 8.5% for VentureOne. The frequency distributions indicate that Venture Economics and VentureOne are within 5% of the correct amount, respectively, in only 70% and 80% of the financing rounds. Both databases are off by 25% of the actual round amount in more 10% of the rounds.

The results in panel A of table III also suggest that both databases treat milestone rounds inconsistently. For 20 milestone rounds, Venture Economics reports financing that is a median of 45% of the total financing committed to the round. The reported financing equals the amount initially disbursed in the median case. The average absolute error for both measures, however, exceeds 46%. Furthermore, the Venture Economics amount is off by at least 25% more than 47% of the time using both measures. Venture Economics, therefore, has a tendency to report the amount initially disbursed, but does not do this uniformly.

For 19 milestone rounds, VentureOne reports financing that is a median of 100% of the total financing committed to the round, but 163% of the financing initially disbursed. The average absolute error is 23% for total committed financing and over 200% for financing initially disbursed. The VentureOne amount is off by at least 25% more than 36% of the time using both

measures. The VentureOne results are similar for amounts actually disbursed based upon the completion of milestones when we can calculate this). VentureOne, therefore, appears to have a tendency to report the total amount committed or the total amount ultimately disbursed, but also does not do this uniformly.

Because there are about six times as many non-milestones rounds as milestone rounds in our sample, the medians and average absolute errors for all rounds taken together are much closer to those for non-milestone rounds than those for milestone rounds. In the median company, the financing amount is correct for both databases. This implies that both databases understate and overstate financing round amounts with the same frequency leading to no overall bias in either direction in either database. For Venture Economics, the average absolute errors are roughly 20% both for total commitments and for initial disbursements with more than 22% of the rounds incorrect by at least 25%. For VentureOne, the average absolute errors are 11% for total commitments and 43% for initial disbursements with more than 15% of the rounds incorrect by at least 25%.

Table IV considers rounds with milestones and with subsequent closings in more detail. We were able to determine with certainty that the milestones were achieved in 7 of 21 Venture Economics milestone rounds and 8 of 20 VentureOne milestone rounds. Venture Economics and VentureOne include the milestone amount in the original round, respectively, in 3 and 4 of the milestone rounds; they report the milestone amount as a new round in 4 and 3 of the milestone rounds; and VentureOne double counts one milestone round.

The second part of table IV shows that both databases usually include amounts raised at subsequent closings in the original round amount, rather than as a new round. However, both databases sometimes double-count subsequent closing amounts, both including them in the

original round amount and reporting them as a new round, which overstates the total amount raised.

Taken together, tables III and IV have the following implications: The databases do a better job of characterizing non-milestone rounds relative to milestone rounds. While the financing amounts are measured with a fair amount of error, the amounts tend to be unbiased on average. The presence of milestone rounds and subsequent closings leads both databases to misstate when firms receive financing. On average, the databases imply that firms receive more financing than they actually do – commitments rather than actual amounts along with double counting – and that firms receive the financing earlier than they actually do – including milestone amounts and subsequent closing amounts at the time of closing. These two effects will exert a downward bias on internal rate of return calculations using these data. To the extent that milestone deals have become more common recently, the results also imply that the databases will become less accurate over time.

3.3 Determinants of the inclusion of post-money values

In this section, we consider the determinants of whether the databases include a post-money value. This is important for those papers that attempt to calculate returns using the company valuations provided.

As reported in table I, we can calculate valuations for 119 of our 143 rounds; Venture Economics reports a post-money value for only 39; and VentureOne reports for 82. We are interested in determining whether there are factors that contribute systematically to whether the databases report post-money values for a financing round.

To do this, we estimate two logit regression models for each database. In the first model,

we use only those rounds for which a financing amount is reported in the relevant database. In the second model, we use all 143 rounds. The first model measures any potential bias relative to the relevant database. Measuring this bias does not require our data, only the data in the relevant database. The second model measures any bias relative to the entire sample of financings. The dependent variable equals 1 if the database reports a post-money value for the round, and 0 if it does not. We use the same independent variables used in the previous regressions for whether the databases include a particular financing round.

The results are presented in Table V. In both models, Venture Economics is significantly more likely to include a post-money value if the company subsequently goes public and if the company is based in California. The result for IPOs suggests that care should be taken in calculating returns using only those firms that provide valuations. Such calculations will oversample companies that subsequently go public and will overestimate returns because companies that go public tend to be more valuable and provide greater rates of return to VC investors than those that do not.

Using the average values of the independent variables provided in panel A of table V along with the regression coefficients in panel B, we can get a sense of how large this bias is. The estimated unconditional probability (i.e., using the data for all rounds) that Venture Economics reports a post-money value for the average round is 12.8% if the company does not subsequently go public and 37.3% if it does.

The oversampling of California firms will induce bias in the data if the characteristics of California firm valuations differ from those of other firms. We consider this possibility below (table VII) and find that California firms have higher valuations in Venture Economics, but not in VentureOne.

VentureOne is significantly more likely to include a post-money value for larger financing rounds, for California-based companies, and for companies in life sciences. While VentureOne is more likely to include values for firms that go public in both models, the variable is not significant when all financing rounds are included.

Because the IPO bias is smaller, return calculations using VentureOne data will be more accurate than those using Venture Economics. On the other hand, the bias in VentureOne towards valuing larger financing rounds suggests that VentureOne may oversample higher valuation rounds.

3.4 Financing Round Values

Having considered the determinants of whether the database provides a valuation, we now evaluate the accuracy of the valuations in this section.

3.4.1 Pre-money values

For the 119 rounds in our sample for which we have the necessary data, we compute the actual round pre-money value. As noted earlier, this equals the product of the price paid per share of common equivalent in the financing round and the number of common equivalents outstanding prior to the round. The value of outstanding options and warrants are calculated as if they were exercised.

In five milestone rounds, the contract either specifies that (1) the price per share paid at the initial closing will be less than the price per share paid at any later closing if the milestones are achieved or (2) amounts paid at such later closings are not in exchange for more shares (thereby increasing the effective price per share). The “total” calculations assume

that the milestones are achieved while the “initial” calculations assume the milestones are not achieved.

The databases do not report pre-money values directly, rather they report post-money values. We impute each round’s pre-money values as the round’s post-money value less the round amount. When this procedure results in a negative imputed pre-money value, we drop the round from our pre-money comparisons. Of the 119 rounds for which we are able to compute pre-money values, Venture Economics contains post-money values for only 35. Two of these have negative imputed pre-money values and are, therefore, dropped. VentureOne contains post-money values for 70 of the 119; none have negative imputed pre-money values.

Panel A of table VI presents the results for pre-money value. The median pre-money value in Venture Economics is roughly 90% of the actual while the median pre-money value in VentureOne is roughly 107% of the actual. The medians, however, mask a large amount of dispersion. The average absolute errors are large: Venture Economics has an average absolute error for all rounds of 85%, based on the actual amount raised; VentureOne’s is 76%. Almost 40% of the Venture Economics valuations are off by more than 25% as are almost 23% of the VentureOne valuations.

3.4.2 Post-money Values

In panels B and C of table VI, we report descriptive statistics for the ratios of the post-money values reported by Venture Economics and VentureOne to the actual post-money values. We compute the actual post-money values several different ways: including and excluding amounts raised at closings held more than 30 days after the initial closing as part of the round amount, and, for milestone rounds, based on the total committed amount, the initial amount, and

the actual amount raised (based on milestones actually attained).

Both databases do better on a percentage basis with post-money values than with pre-money values, but still with mixed results. This is in part because a post-money values are higher than pre-money values, so a given dollar error is a smaller percentage error in post-money values. VentureOne is more accurate than Venture Economics with non-milestone rounds, with an average absolute error of 11% compared to Venture Economics' 28%. Venture Economics is somewhat more accurate than VentureOne with milestone rounds, but the number of milestone round post-money observations is small (only 5). For all rounds (milestone and non-milestone) taken together, VentureOne is again more accurate than Venture Economics, with average absolute errors of 16% (based on the total committed and actual amounts) and 28% (based on the initial amount) compared to Venture Economics' 29% to 35%. Roughly 24% and 15% to 20%, respectively, of Venture Economics' and VentureOne's post-money values are in error by more than 25%. Overall, then, VentureOne is both more accurate and more complete in its coverage.

Panels B and C of Table VI also show that the Venture Economics' median post-money value errors are -6% to -7% while VentureOne's are 3% to 5%. Both databases' average post-money value errors are statistically insignificant. Thus, while the average absolute error is large, it does not appear to be biased.

3.4.3 Relative valuations of firms with Venture Economics and VentureOne values

There is one additional bias that is potentially in the data. It is possible that the firms for whom Venture Economics and VentureOne report post-money values have valuations different from those for the firms without such valuations. In table VII, we consider this bias by estimating the relationship of the actual (log) pre- and post-money values of our sample firms

with a dummy variable equal to one if the relevant database provides a post-money value. The regressions control for other company characteristics. By using a log specification, the coefficient on the post-money value dummy measures the percentage increase in valuation associated with financing rounds for which the database reports such valuations.

Table VII indicates that the Venture Economics financing rounds that report a post-money value do not have higher pre- or post-money values. The VentureOne financing rounds that report a post-money value, however, have significantly higher valuations than the non-reporting firms. The coefficients imply that VentureOne financing rounds that report valuations have pre- and post-money valuations that are, respectively, 102% and 78% higher than financing rounds that do not report valuations.

The findings for VentureOne have implications for academics and practitioners. For academic studies that rely on VentureOne valuations, the valuations represent an upward biased sample of valuations even controlling for firm characteristics. This exerts a downward bias on return calculations based on these valuations.

Practitioners – entrepreneurs and investors – use the VentureOne data to estimate the market valuations for similar rounds. If those estimates are upward biased as the regressions in table VII suggest, less informed investors may mistakenly shade their valuations upwards while less informed entrepreneurs may attempt to hold out for valuations that are unrealistically high.

4. *Summary and Implications*

In this paper, we compare the actual contracts in 143 VC financings to their characterizations in the Venture Economics and VentureOne databases. The results in this paper should help academics and practitioners use the databases and interpret the results more

effectively.

The databases exclude roughly 15% of the financing rounds. The exclusions and the mixed treatment of milestone rounds lead the databases to understate the amount of financing commitments by 20%. At the same time, the mixed treatment of milestone rounds leads VentureOne to overstate the financing actually disbursed. These findings suggest some caution in interpreting the aggregate financing numbers provided by these databases.

The Venture Economics database oversamples larger rounds and California companies while the financing rounds included in the VentureOne database exhibit no significant bias. The databases provide unbiased, but noisy measures of financing amounts and their valuations. These results suggest that studies like Gompers and Lerner (2000) that estimate regressions using the valuations as dependent variables are not biased.

In general, the databases are less successful in measuring milestone round amounts and valuations. In our sample, roughly 15% of the financing rounds are milestone rounds. We are unsure what the percentage is in the general population of deals. To the extent that the use of milestones is increasing in the current financing environment, the noisiness may increase over time.

There are two characteristics of the databases that will tend to exert a downward bias on those studies like Cochrane (2001) and Peng (2001) that attempt to estimate venture capital returns. First, the treatment of milestone deals and subsequent closings in the databases characterizes investments as having been made earlier than they actually occurred. Second, there is a bias in VentureOne towards financing rounds with higher valuations controlling for firm characteristics.

The latter finding along with oversampling of California companies, IPO rounds, and larger rounds also has implications for practitioners – entrepreneurs and investors – who use the VentureOne data to estimate the market valuations for similar rounds. If those estimates are upward biased, less informed investors may mistakenly shade their valuations upwards while less informed entrepreneurs may attempt to hold out for valuations that are unrealistically high.

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Table I
Sample Summary

Summary statistics for actual financing rounds and rounds reported by Venture Economics (VE) and VentureOne (V1) for 143 financing rounds in 98 companies from 1986 to 1999. The 'actual rounds' column gives the number of actual rounds by year, by company location and by industry. The 'post-money actual' column gives the number of actual rounds for which our data was sufficient to compute post-money values (based on the total committed amount, and excluding amounts raised at subsequent closings). The other columns give the number of our rounds for which VE/V1 report amounts raised and post-money values. The total committed amount is the aggregate committed financing for our 143 rounds; the total disbursed amount is the aggregate amount disbursed at the initial closings. We also report a frequency distribution for the number of months the matching round in VE/V1 differs from the actual date of the initial closing. Milestone rounds are those in which the investors invest in the company at the initial closing and commit additional funds contingent on the future achievement of milestones. Rounds with subsequent closings are those in which additional closings (unrelated to the achievement of milestones) were held more than 30 days after the initial closing.

	<u>Actual rounds</u>	<u>Post-money actual</u>	<u>Amount raised in VE</u>	<u>Amount raised in V1</u>	<u>Post-money in VE</u>	<u>Post-money in V1</u>
Rounds	143	119	124	116	39	82
Milestone rounds	23	21	21	20	5	11
Rounds w/ subsequent closings	19	15	16	14	5	11
Total committed (\$MM)	1142		801	889		
Total disbursed (\$MM)	859		801	889		
Total committed post-1993(\$MM)	1056		728	854		
Total disbursed post-1993 (\$MM)	773		728	854		

Round year

Before 1994	12	9	11	4	1	4
1994	9	6	7	7	1	5
1995	8	7	5	5	1	5
1996	39	37	34	35	14	26
1997	36	27	31	29	13	23
1998	38	32	35	35	9	19
1999	1	1	1	1	0	0

Company location

California	40	34	39	37	17	32
Midwest	29	24	24	23	6	14
Northeast	34	26	27	28	7	16
Elsewhere	40	35	34	28	9	20

Industry

Biotech/Medical	25	22	22	23	12	21
IT/Software	59	53	52	50	18	34
Healthcare	10	9	10	8	3	5
Telecom	14	10	12	13	2	9
Retail	15	12	14	9	2	7
Other	20	13	14	13	2	6

Number of months matching

round date differs from the actual date

Number of rounds in VE

Number of rounds in V1

0	85	101
1	22	8
2	13	5
3	2	0
4	2	2

Table II
Determinants of a financing round appearing in Venture Economics and VentureOne

Logit regressions for the determinants of a financing round appearing in Venture Economics (VE) and VentureOne (V1) for 143 financing rounds in 98 companies from 1986 to 1999. The dependent variable equals 1 if the actual financing round is reported in the relevant database and equals 0 if the round is not reported. The independent variables are the natural logarithm of the actual financing amount of the financing round in millions of dollars (based on the total committed amount, excluding amounts raised at closings more than 30 days after the initial closing), calendar year dummies (1995, 1996, 1997, and 1998 or 1999), a geography indicator (equal to 1 if the company is based in California and 0 otherwise), an IT/telecom indicator (equal to 1.0 if the company is in the information technology of telecom industries and 0.0 otherwise), a life sciences indicator (equal to 1.0 if the company is in the biotechnology or health care industries and 0.0 otherwise), and an IPO indicator (equal to 1 if the company subsequently went public, 0 otherwise). Panel A presents the average values of the independent variables and Panel B presents the regression results. Reported standard errors are robust. Residuals are clustered by the VC investor in the VE regressions and by the company receiving financing in the V1 regressions, since these are the parties reporting data to the respective databases. Standard errors are in brackets.

Panel A – Independent variable average values									
	In Round amount	1995	1996	1997	1998, 1999	California	IT	LS	IPO
All rounds	1.584	0.056	0.273	0.252	0.273	0.280	0.510	0.245	0.336

Panel B – Regression results

	Intercept	In Round Amount	1995	1996	1997	1998 1999	California	IT	LS	IPO	Pseudo R ²	Num.. Obs.
1. Venture Economics												
Coefficient	0.69	1.38***	-1.34*	-1.51*	-1.15	-1.69***	2.00*	0.58*	0.61*	0.19	0.28	143
	[0.53]	[0.24]	[0.76]	[0.80]	[0.72]	[0.65]	[1.03]	[0.35]	[0.33]	[0.40]		
Odds ratio point estimate	4.01	0.26	0.22	0.32	0.19	7.39	1.79	1.84	1.20			
2. VentureOne												
Coefficient	-0.75	0.49	0.59	1.52*	0.86	1.57*	0.89	0.44	0.71	0.08	0.18	143
	[0.75]	[0.33]	[0.88]	[0.84]	[0.77]	[0.89]	[0.80]	[0.66]	[0.75]	[0.71]		
Odds ratio point estimate	1.63	1.80	1.80	4.57	2.36	4.82	2.44	1.55	2.03	1.09		

Significant at the 1% level, ***; 5% level, **; and 10% level, *.

Table III

Comparisons of financing round amounts to those reported by Venture Economics and VentureOne

Comparisons of financing round amounts to those reported by Venture Economics (VE) and VentureOne (VI) for 143 financing rounds in 98 companies from 1986 to 1999. For each round in which the amount of financing is not dependent on the achievement of any milestones (non-milestone rounds), we compute the ratios of the amounts reported by VE and VI to the actual amount. For milestone rounds, in which the investors invest in the company at the initial closing and commit additional funds contingent on the future achievement of milestones, we compute the ratios of the amounts reported by VE and VI to the initial amount, to the total committed amount assuming the achievement of all milestones, and to the actual amount raised based on the actual milestones achieved. We report descriptive statistics (median, average, standard deviation of the average, average absolute error, defined as the average absolute deviation from 1.0, and the number of observations) as well as frequency distributions for these ratios. In the columns labeled ‘All’, we report these descriptive statistics and frequency distributions for all rounds taken together (both milestone and non-milestone); for non-milestone rounds the initial, total, and actual ratios are by definition the same. For rounds with multiple closings, our convention is to include amounts raised at closings within 30 days of the initial closing as part of the round amount. In panel A, we include amounts raised at subsequent closings held more than 30 days after the initial closing (these usually occur within 60 days) as part of the round amount; in panel B we do not. Notwithstanding the above, the ‘milestone initial’ amounts do not include amounts raised at closings related to the achievement of milestones. The data in Panel A exclude rounds for which our data is insufficient to determine whether subsequent closings occurred. In both panels, the ‘milestone actual’ and ‘all actual’ data exclude milestone rounds for which our data is insufficient to determine whether milestones were achieved.

Panel A: Ratio of VE or VI financing amount to actual financing amount, including amounts raised in subsequent closings as part of the round amount														
	VE							VI						
	Non-Milestone	Milestone			All			Non-Milestone	Milestone			All		
	Actual	Total	Initial	Actual	Total	Initial	Actual	Actual	Total	Initial	Actual	Total	Initial	Actual
Median	1.000	0.451	1.000	0.996	1.000	1.000	1.000	1.000	1.000	1.633	1.000	1.000	1.000	1.000
Average	1.014	0.545	1.368	0.853	0.932	1.073	1.000	1.024	0.827	3.077	0.851	0.989	1.373	1.007
St. dev. (ave.)	0.036	0.078	0.178	0.215	0.037	0.044	0.038	0.026	0.077	0.773	0.116	0.026	0.150	0.027
Ave. abs. error	0.150	0.469	0.466	0.447	0.205	0.203	0.176	0.085	0.230	2.095	0.221	0.111	0.427	0.099
Num. rounds	95	20	19	9	115	114	104	88	19	18	10	107	106	98
Frequency distribution														
0 = x = 0.5	5	12	0	3	17	5	8	3	5	0	2	8	3	5
0.5 < x = 0.75	2	2	3	1	4	5	3	0	1	0	0	1	0	0
0.75 < x = 0.85	5	0	0	0	5	5	5	1	1	0	1	2	1	2
0.85 < x = 0.95	4	1	1	0	5	5	4	3	0	1	1	3	4	4
0.95 < x = 1.05	67	3	6	3	70	73	70	70	10	5	5	80	75	75
1.05 < x = 1.15	1	2	1	1	3	2	2	5	0	1	0	5	6	5
1.15 < x = 1.25	1	0	2	0	1	3	1	0	1	0	0	1	0	0
1.25 < x = 1.5	5	0	1	0	5	6	5	2	1	0	1	3	2	3
x > 1.5	5	0	5	1	5	10	6	4	0	11	0	4	15	4

Panel B: Ratio of VE or VI financing amount to actual financing amount , excluding amounts raised in subsequent closings as part of the round amount															
VE								VI							
	Non-Milestone	Milestone			All				Non-Milestone	Milestone			All		
	Actual	Total	Initial	Actual	Total	Initial	Actual		Actual	Total	Initial	Actual	Total	Initial	Actual
Median	1.000	0.418	1.000	0.996	1.000	1.000	1.000		1.000	1.000	1.667	1.000	1.000	1.000	1.000
Average	1.042	0.522	1.332	0.889	0.954	1.089	1.030		1.063	0.841	3.902	0.864	1.025	1.532	1.044
St. dev. (ave.)	0.035	0.079	0.182	0.246	0.037	0.043	0.038		0.029	0.074	1.086	0.117	0.028	0.203	0.029
Ave. abs. error	0.160	0.491	0.493	0.483	0.216	0.214	0.186		0.117	0.222	2.906	0.209	0.135	0.578	0.126
Num. rounds	103	21	20	9	124	123	112		96	20	19	10	116	115	106
Frequency distribution															
$0 = x = 0.5$	5	13	1	3	18	6	8		3	5	0	2	8	3	5
$0.5 < x = 0.75$	2	2	3	1	4	5	3		0	1	0	0	1	0	0
$0.75 < x = 0.85$	3	0	0	0	3	3	3		1	1	0	1	2	1	2
$0.85 < x = 0.95$	4	0	0	0	4	4	4		3	0	0	0	3	3	3
$0.95 < x = 1.05$	71	4	7	3	75	78	74		70	10	6	6	80	76	76
$1.05 < x = 1.15$	2	2	1	1	4	3	3		6	1	1	0	7	7	6
$1.15 < x = 1.25$	3	0	2	0	3	5	3		3	1	0	0	4	3	3
$1.25 < x = 1.5$	6	0	1	0	6	7	6		2	1	0	1	3	2	3
$x > 1.5$	7	0	5	1	7	12	8		8	0	12	0	8	20	8

Table IV**Treatment of milestone and subsequent closing amounts by Venture Economics and VentureOne**

Treatment of milestone and subsequent closing amounts by Venture Economics (VE) and VentureOne (V1) for 143 financing rounds in 98 companies from 1986 to 1999. Milestone rounds are those in which investors invest in the company at the initial closing and commit additional funds contingent on the future achievement of milestones. We show the number of financing rounds in which amounts raised upon the achievement of milestones or at closings held more than 30 days after the initial closing are (i) included in the original round amount, (ii) reported as a new round, (iii) both (double-counted), or (iv) neither.

	VE	V1
Total number of milestone rounds	21	20
Milestone rounds in which milestones were not achieved or our data is insufficient to tell	14	12
Milestone rounds in which milestones were achieved	7	8
Milestone amount included in the original round amount	3	4
Milestone amount reported as a new round	4	3
Milestone amount double-counted	0	1
Milestone amount not reported	0	0
Total number of rounds in which subsequent closings were held	16	14
Subsequent closing amount included in the original round amount	11	10
Subsequent closing amount reported as a new round	3	0
Subsequent closing amount double-counted	2	2
Subsequent closing amount not reported	0	2

Table V

Determinants of whether Venture Economics and VentureOne report a post-money value for a financing round

Logit regressions of the determinants of whether Venture Economics (VE) and VentureOne (V1) report a post-money value for a financing round for 143 financing rounds in 98 companies from 1986 to 1999. For each database, the dependent variable is 1 if a post-money value is reported for the financing round, 0 if it is not. The independent variables are the natural logarithm of the amount of the financing round in millions (based on the total committed amount, excluding amounts raised at closings more than 30 days after the initial closing), calendar year dummies (1995, 1996, 1997, and 1998 or 1999), a geography indicator (equal to 1 if the company is based in California and 0 otherwise), an IT/telecom indicator (equal to 1 if the company is in the information technology or telecom industries and 0 otherwise), a life sciences indicator (equal to 1 if the company is in the biotechnology or health care industries and 0 otherwise), and an IPO indicator (equal to 1 if the company subsequently went public, 0 otherwise). The first set of regressions uses only the rounds the database has (i.e., reports a round amount for). The second set uses all rounds. Panel A presents the average values of the independent variables and Panel B presents the regression results. Reported standard errors are robust. Residuals are clustered by the VC investor in the VE regressions and by the company receiving financing in the V1 regressions, since these are the parties reporting data to the respective databases. Standard errors are in brackets.

Panel A – Independent variable average values									
	In Round amount	1995	1996	1997	1998, 1999	California	IT	LS	IPO
Only VE's rounds	1.746	0.040	0.274	0.250	0.290	0.315	0.516	0.258	0.355
Only V1's rounds	1.721	0.043	0.302	0.250	0.310	0.319	0.543	0.267	0.336
All rounds	1.584	0.056	0.273	0.252	0.273	0.280	0.510	0.245	0.336

Panel B – Regression results

	Int.	In Round Amount	1995	1996	1997	1998, 1999	Calif.	IT	LS	IPO	Pseudo R ²	Num. Obs.
1. Venture Economics:												
<u>Venture Economics' s rounds</u>												
	-5.27***	-0.19	1.46	2.78**	2.64*	2.37*	1.68***	-0.60	1.66**	4.11***	0.43	124
	[1.10]	[0.39]	[2.19]	[1.39]	[1.55]	[1.36]	[0.64]	[0.96]	[0.84]	[0.79]		
Odds ratio point estimate	0.83	4.31	16.20	14.03	10.67	5.37	0.55	5.25	61.23			
<u>All rounds</u>												
	-4.95***	0.02	0.78	2.17	2.05	1.89	1.40***	-0.22	1.26	3.38***	0.38	143
	[1.17]	[0.37]	[2.24]	[1.56]	[1.66]	[1.46]	[0.48]	[0.83]	[0.80]	[0.58]		
Odds ratio point estimate	1.02	2.18	8.77	7.77	6.65	4.05	0.80	3.54	29.32			
2. VentureOne:												
<u>VentureOne's rounds</u>												
	0.30	0.55*	-1.52*	-1.27	-2.99***	1.94***	0.48	1.48**	1.50**	0.28	116	
	[0.67]	[0.29]	[0.78]	[0.81]	[0.84]	[0.57]	[0.50]	[0.66]	[0.62]			
Odds ratio point estimate	1.74	0.22	0.28	0.05	6.93	1.62	4.39	4.50				
<u>All rounds</u>												
	-2.15**	0.73***	1.27	0.19	0.19	-1.12	1.76***	0.75	1.51**	0.89	0.22	143
	[0.85]	[0.24]	[0.85]	[0.76]	[0.77]	[0.75]	[0.52]	[0.58]	[0.60]	[0.56]		
Odds ratio point estimate	2.08	3.57	1.21	1.21	0.33	5.83	2.13	4.51	2.44			

Significant at the 1% level, ***; 5% level, **; and 10% level, *.

Table VI

Comparisons of financing round pre- and post-money values to those reported by Venture Economics and VentureOne

Comparisons of financing round pre- and post-money values to those reported by Venture Economics (VE) and VentureOne (V1) for 143 financing rounds in 98 companies from 1986 to 1999. For each round in which the amount of financing is not dependent on the achievement of any milestones (non-milestone rounds), we compute the ratios of the pre- and post-money values reported by VE and V1 to the actual pre- and post-money values. We compute a pre-money value as the product of the price paid per share of common equivalent in the financing round times the number of common equivalents, including options and warrants, outstanding prior to the round. A post-money value is defined as the round pre-money value plus the amount raised in the round. For milestone rounds, in which the investors invest in the company at the initial closing and commit additional funds contingent on the future achievement of milestones, we compute the ratios of the pre- and post-money values reported by VE and V1 to the actual pre- and post-money values based on the initial amount, based on the total committed amount assuming the achievement of all milestones, and based on the actual amount raised according to the actual milestones achieved. We report descriptive statistics (median, average, standard deviation of the average, average absolute error, defined as the average absolute deviation from 1.0, and the number of observations) as well as frequency distributions for these ratios. In the columns labeled 'All', we report these descriptive statistics and frequency distributions for all rounds taken together (both milestone and non-milestone); for non-milestone rounds the initial, total, and actual ratios are by definition the same. Since VE and V1 only report post-money values, we impute the reported pre-money value for a round as the reported post-money value less the reported round amount. In panel A, we present our pre-money value data. Rounds for which the reported post-money value is greater than the reported round amount (resulting in negative pre-money values) are excluded. For rounds with multiple closings, our convention is to include amounts raised at closings within 30 days of the initial closing as part of the round amount. Since the total amount raised affects the post-money value, in panel B, we include amounts raised at subsequent closings held more than 30 days after the initial closing (these usually occur within 60 days) as part of the post-money value; in panel C we do not. Notwithstanding the above, the 'milestone initial' amounts do not include amounts raised at closings related to the achievement of milestones. The data in Panel B exclude rounds for which our data is insufficient to determine whether subsequent closings occurred. In all panels, the 'milestone actual' and 'all actual' data exclude milestone rounds for which our data are insufficient to determine whether milestones were achieved and for which this affects the calculations.

Panel A: Ratios of VE and V1 pre-money values to actual pre-money values															
VE								V1							
	Non-Milestone	Milestone			All				Non-Milestone	Milestone			All		
	Actual	Total	Initial	Actual	Total	Initial	Actual		Actual	Total	Initial	Actual	Total	Initial	Actual
Median	0.893	1.652	1.652	1.652	0.903	0.938	0.903		1.064	1.369	2.099	1.369	1.074	1.080	1.074
Average	1.049	4.189	4.241	4.189	1.525	1.532	1.525		1.142	4.594	6.518	4.594	1.635	1.910	1.635
St. dev. (ave.)	0.140	2.872	2.858	2.872	0.458	0.458	0.458		0.078	1.870	2.356	1.870	0.301	0.399	0.301
Ave. abs. error	0.367	3.571	3.562	3.571	0.852	0.851	0.852		0.225	3.988	5.894	3.988	0.763	1.035	0.763
Num. rounds	28	5	5	5	33	33	33		60	10	10	10	70	70	70
Frequency distribution															
0 =x= 0.5	2	1	1	1	3	3	3		1	2	2	2	3	3	3
0.5 <x= 0.75	4	0	0	0	4	4	4		1	0	0	0	1	1	1
0.75 <x= 0.85	3	1	0	1	4	3	4		3	0	0	0	3	3	3
0.85 <x= 0.95	7	0	0	0	7	7	7		6	1	0	1	7	6	7
0.95 <x= 1.05	3	0	0	0	3	3	3		16	1	0	1	17	16	17
1.05 <x= 1.15	3	0	1	0	3	4	3		17	0	0	0	17	17	17
1.15 <x= 1.25	3	0	0	0	3	3	3		9	1	2	1	10	11	10
1.25 <x= 1.5	1	0	0	0	1	1	1		3	1	1	1	4	4	4
x>1.5	2	3	3	3	5	5	5		4	4	5	4	8	9	8

Panel B: Ratios of VE and V1 post-money values to actual post-money values, including amounts raised in subsequent closings															
VE								V1							
	Non-Milestone	Milestone			All				Non-Milestone	Milestone			All		
	Actual	Total	Initial	Actual	Total	Initial	Actual		Actual	Total	Initial	Actual	Total	Initial	Actual
Median	0.935	0.894	1.151	0.894	0.931	0.944	0.931		1.039	0.994	1.810	0.706	1.039	1.054	1.035
Average	1.050	0.848	1.665	0.937	1.021	1.138	1.040		1.042	0.979	2.022	0.819	1.032	1.190	1.017
St. dev. (ave.)	0.113	0.220	0.583	0.287	0.102	0.128	0.105		0.026	0.187	0.485	0.246	0.035	0.086	0.036
Ave. abs. error	0.277	0.408	0.792	0.366	0.296	0.350	0.285		0.110	0.475	1.245	0.517	0.165	0.282	0.155
Num. rounds	30	5	5	3	35	35	33		56	10	10	7	66	66	63
Frequency distribution															
0 =x= 0.5	1	2	0	1	3	1	2		1	2	1	2	3	2	3
0.5 <x= 0.75	3	0	1	0	3	4	3		0	2	1	2	2	1	2
0.75 <x= 0.85	4	0	0	0	4	4	4		1	0	0	0	1	1	1
0.85 <x= 0.95	9	1	0	1	10	9	10		7	1	0	1	8	7	8
0.95 <x= 1.05	5	0	0	0	5	5	5		22	0	0	0	22	22	22
1.05 <x= 1.15	4	0	1	0	4	5	4		19	1	0	1	20	19	20
1.15 <x= 1.25	2	0	1	0	2	3	2		3	0	1	0	3	4	3
1.25 <x= 1.5	0	2	1	1	2	1	1		2	3	1	0	5	3	2
x > 1.5	2	0	1	0	2	3	2		1	1	6	1	2	7	2

Panel C: Ratio of VE and V1 post-money values to actual post-money values, excluding amounts raised in subsequent closings															
VE								V1							
	Non-Milestone	Milestone			All				Non-Milestone	Milestone			All		
	Actual	Total	Initial	Actual	Total	Initial	Actual		Actual	Total	Initial	Actual	Total	Initial	Actual
Median	0.937	0.894	1.151	0.894	0.937	0.944	0.937		1.061	0.994	1.810	0.706	1.061	1.071	1.058
Average	1.054	0.848	1.665	0.937	1.024	1.141	1.043		1.057	0.983	2.031	0.832	1.046	1.196	1.033
St. dev. (ave.)	0.113	0.220	0.583	0.287	0.102	0.128	0.105		0.025	0.188	0.485	0.257	0.034	0.081	0.035
Ave. abs. error	0.277	0.408	0.792	0.366	0.295	0.350	0.285		0.118	0.480	1.254	0.530	0.170	0.280	0.161
Num. rounds	30	5	5	3	35	35	33		60	10	10	7	70	70	67
Frequency distribution															
0 =x= 0.5	1	2	0	1	3	1	2		1	2	1	2	3	2	3
0.5 <x= 0.75	3	0	1	0	3	4	3		0	2	1	2	2	1	2
0.75 <x= 0.85	4	0	0	0	4	4	4		1	0	0	0	1	1	1
0.85 <x= 0.95	9	1	0	1	10	9	10		7	1	0	1	8	7	8
0.95 <x= 1.05	5	0	0	0	5	5	5		19	0	0	0	19	19	19
1.05 <x= 1.15	3	0	1	0	3	4	3		23	1	0	1	24	23	24
1.15 <x= 1.25	3	0	1	0	3	4	3		5	0	1	0	5	6	5
1.25 <x= 1.5	0	2	1	1	2	1	1		3	3	1	0	6	4	3
x > 1.5	2	0	1	0	2	3	2		1	1	6	1	2	7	2

Table VII

OLS regressions to determine whether there exist valuation biases in Venture Economics and VentureOne

The dependent variables in these OLS regressions are the natural logarithms of the actual financing round pre- and post-money values. Pre-money values are based on the price per share paid at the initial closing and post-money values based on the total committed amount, excluding amounts raised at subsequent closings. For each database, the independent variables are a dummy that is equal to 1.0 if the database reports a post-money value for the round and 0.0 otherwise, calendar year dummies (1995, 1996, 1997, and 1998 or 1999), a geography indicator (equal to 1.0 if the company is based in California and 0.0 otherwise), an IT/telecom indicator (equal to 1.0 if the company is in the information technology or telecom industries and 0.0 otherwise), a life sciences indicator (equal to 1.0 if the company is in the biotechnology or health care industries and 0.0 otherwise), and an IPO indicator (equal to 1.0 if the company subsequently went public. Reported standard errors are robust. Residuals are clustered by the company receiving financing. Standard errors are in brackets.

	Int.	Post-money reported	1995	1996	1997	1998,1999	Calif.	IT	LS	IPO	R²	Num. Obs.
1. <u>Venture Economics:</u>												
<u>Dependent variable is ln pre-money value</u>												
	1.96 ^{***} [0.75]	0.36 [0.36]	0.03 [0.67]	0.22 [0.55]	0.40 [0.62]	0.72 [0.61]	0.51 ^{**} [0.23]	-0.71 [*] [0.38]	-1.49 ^{***} [0.44]	0.55 [0.40]	0.16	119
<u>Dependent variable is ln post-money value</u>												
	2.47 ^{***} [0.60]	0.14 [0.22]	-0.32 [0.61]	0.42 [0.41]	0.50 [0.48]	0.93 [*] [0.47]	0.12 [0.19]	-0.54 [0.35]	-0.83 ^{**} [0.36]	0.65 ^{**} [0.27]	0.18	119
2. <u>VentureOne:</u>												
<u>Dependent variable is ln pre-money value</u>												
	1.73 ^{**} [0.74]	1.02 ^{***} [0.30]	-0.15 [0.68]	0.07 [0.57]	0.28 [0.64]	0.68 [0.60]	0.19 [0.23]	-0.79 ^{**} [0.38]	-1.58 ^{***} [0.41]	0.55 [*] [0.32]	0.24	119
<u>Dependent variable is ln post-money value</u>												
	2.31 ^{***} [0.59]	0.78 ^{***} [0.21]	-0.48 [0.60]	0.26 [0.44]	0.37 [0.50]	0.86 [*] [0.47]	-0.15 [0.17]	-0.59 [*] [0.34]	-0.92 ^{***} [0.34]	0.59 ^{**} [0.24]	0.26	119

Significant at the 1% level, ***; 5% level, **; and 10% level, *.